WOLVERINE

Army ACAT II Program

Total Number of Systems:	465
Total Program Cost (FY98$):	$2640M
Average Unit Cost (FY98$):	$5.7M
Full-rate production:	4QFY00

Prime Contractor

General Dynamics Land Systems

SYSTEM DESCRIPTION & CONTRIBUTION TO JOINT VISION 2010

The Wolverine provides assault bridging support for forward, heavy-maneuver forces, thereby utilizing the ***Army's Vision 2010*** concept of ***decisive operations***. The Wolverine launcher is mounted on an M1A2 Abrams System Enhancement Program chassis and is operated by a two-man crew. The bridge is 26 meters long and can span gaps up to 24 meters. It will support a Military Load Class 70 vehicle crossing at 16 kph. The bridge is launched from under armor in five minutes and is retrieved in less than ten minutes.

The Wolverine will increase maneuver force mobility by allowing units to transit such gaps as tank ditches, road craters, and partially damaged bridge sections. The current Armored Vehicle Launched Bridge (AVLB) only supports Abrams tank units with caution crossing at reduced gap length (15m) and reduced crossing speed. The Wolverine will replace the AVLB in selected engineer companies of mechanized battalions, armored cavalry regiments, and heavy brigades.

BACKGROUND INFORMATION

Due to its funding level, the Wolverine was not required to undergo operational test oversight by DOT&E; however, the system is on oversight for LFT&E. Following a significant increase in the program's procurement objective (to the current 465 units), the Army's Acquisition Executive, in a memorandum dated June 4, 1996, notified OSD that the Army designated the Wolverine as an Acquisition Category II program and a covered system for LFT&E. The program was added to the T&E oversight list in 1996 for LFT&E only. DOT&E has participated in the Wolverine LFT&E Integrated Process Team since May 1996 and approved the completed strategy in March 1997. Dedicated LFT&E events began in 4QFY97 and will extend through 2QFY00. Milestone III for the Wolverine is planned for August 2000.

TEST & EVALUATION ACTIVITY

The approved testing strategy includes three phases of testing: (1) ballistic testing against a deployed bridge; (2) full-up, system-level testing of a production representative bridge and an up-armored prototype launch mechanism mounted on an M1A1 chassis containing some non-production-like Wolverine components; and (3) full-up, system-level testing of a production system. Phase I testing was successfully conducted during FY97.

Phase II testing completed in FY98 consisted of a controlled damage test (CDT) and a full-up, system-level test against a production representative bridge and an up-armored prototype Wolverine vehicle. The results of these tests were used to determine the loss of combat utility (mobility and bridge operations) by introducing expected types of combat damage into the vehicle and recording the vehicle's response. Typical combat damage introduced during this testing included disconnects and shorts to wiring harnesses, perforation and crushing of fluid lines, and structural damage to critical components.

The Phase II system-level test was designed to examine the system's vulnerability to enemy direct and indirect fire. The three shot effort focused on crew survivability, ballistic shock, fragment and blast effects, and loss of combat function and demonstrated the reparability of the system at various maintenance levels. Soldiers were utilized during the latter effort to more realistically capture the reparability of the system from a user's perspective.

FY99 activities have focused on planning for the Phase III test of a production representative Wolverine beginning in 1QFY00. The Phase III test will include both a CDT and a five shot fu11-up, system-level ballistic vulnerability test. Threats to be fired include direct-fire HE, artillery, and hand-held infantry weapons. DOT&E approved the Phase III evaluation plan, participated in the shot-selection process, and will approve the test plan prior to test execution.

TEST & EVALUATION ASSESSMENT

Throughout Phase I and Phase 11 testing, the Wolverine bridge and launcher met or exceeded requirements. The bridge launching system continued to function when subjected to the blast and fragments of near-miss artillery rounds. The system completed its bridge-launching mission and the deployed bridge proved capable of supporting a crossing of Military Load Class 70 vehicles per the requirement.

CONCLUSIONS, RECOMMENDATIONS, LESSONS LEARNED

During the early planning stages of LFT&E, the program manager and the prime contractor recognized areas of potential weakness in the Wolverine system. Specific areas of concern included exposed hydraulic lines and cylinders, control sensors, and critical components located behind minimal armor protection. The contractor embarked on a program to resolve these areas of potential weakness prior to LFT&E. The fixes were simulated for Phase II. Phase III Live Fire tests will challenge the robustness of the new designs.